

WHAT IS CLAIMED IS:

1. A material comprising:  
an amorphous material, wherein the amorphous material displays magnetic behavior; and  
a dopant.
2. A material according to claim 1, wherein the amorphous material includes a nanoparticle.
3. A material according to claim 1, wherein said dopant comprises a dopant selected from n-type and p-type dopants.
4. A material according to claim 2, wherein said dopant comprises a dopant selected from n-type and p-type dopants.
5. A material according to claim 1, wherein said dopant comprises a dopant selected from transition metals, alkaline earth metals, alkali metals, and rare earth elements.
6. A material according to claim 2, wherein said dopant comprises a dopant selected from transition metals, alkaline earth metals, alkali metals, and rare earth elements.

7. A material according to claim 1, wherein said amorphous material has a defect density of at least  $1 \times 10^{20}$  defects/cm<sup>3</sup>.
8. A material according to claim 2, wherein said magnetic amorphous has a defect density of at least  $1 \times 10^{20}$  defects/cm<sup>3</sup>.
9. A material according to claim 1, wherein said amorphous material comprises silicon.
10. A material according to claim 2, wherein said amorphous material comprises silicon.
11. A material according to claim 10, wherein said nanoparticles comprise silicon.
12. A material according to claim 1, wherein said amorphous material comprises a material selected from III-V semiconductors or II-VI semiconductors.
13. A material according to claim 2, wherein said amorphous material comprises a material selected from III-V semiconductors or II-VI semiconductors.
14. A material according to claim 1, wherein said amorphous material comprises a metal.

15. A material according to claim 2, wherein said amorphous material comprises a metal.

16. A material according to claim 2, wherein said nanoparticles comprise a material selected from at least one of a Group III element and a Group V element.

17. A material according to claim 2, wherein said nanoparticles comprise a material selected from at least one of a Group II element and a Group VI element.

18. A material comprising:  
an amorphous material, wherein said amorphous material comprises a ferromagnetic semiconductor; and  
a dopant.

19. A material according to claim 18, wherein the amorphous material includes a nanoparticle.

20. A material according to claim 18, wherein said dopant comprises a dopant selected from n-type and p-type dopants.

21. A material according to claim 19, wherein said dopant comprises a dopant selected from n-type and p-type dopants.

22. A material according to claim 18, wherein said dopant comprises a dopant selected from transition metals, alkaline earth metals, alkali metals, and rare earth elements.

23. A material according to claim 19, wherein said dopant comprises a dopant selected from transition metals, alkaline earth metals, alkali metals, and rare earth elements.

24. A material according to claim 18, wherein said amorphous material has a defect density of at least  $1 \times 10^{20}$  defects/cm<sup>3</sup>.